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ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/oamh20

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To cite this article: Malenka Areas, Candela García Domench, Anna Babl, Agustín Freiberg-Hoffmann, Santina Piazzese Spratte, Andrés Roussos & Juan Martín Gómez Penedo (2022) Inventory of interpersonal problems-32 (IIP-32): Psychometric properties in adolescents from Argentina, Cogent Mental Health, 2:1, 2267590, DOI: 10.1080/28324765.2023.2267590

To link to this article: https://doi.org/10.1080/28324765.2023.2267590

Published online: 26 Oct 2023.

COGENT MENTAL HEALTH
2022, VOL. 1, NO. 1, 2267590
https://doi.org/10.1080/28324765.2023.2267590

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RESEARCH ARTICLE

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Inventory of interpersonal problems-32 (IIP-32): Psychometric properties in adolescents from Argentina

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ABSTRACT

The Inventory of Interpersonal Problems (IIP) is a widely studied instrument in the mental health field. While there have been some applications of this tool in adolescents, the majority of research has focused on the adult population. This study aims to examine the psychometric properties of the Inventory of Interpersonal Problems-32 (IIP-32) specifically in Argentinian adolescents. A total of 557 participants completed the IIP-32 alongside an additional assessment of interpersonal traits. To evaluate reliability, we analyzed internal consistency and item homogeneity. We analyzed the construct validity of IIP-32 through confirmatory factor analysis and the concurrent validity through correlations between the IIP-32 and other measures of interpersonal traits. The findings of this study indicate adequate internal consistency and homogeneity of the items, as well as construct, concurrent and criterion validity. Overall, the results of this paper establish the IIP-32 as a reliable and valid instrument with significant clinical implications for assessing interpersonal difficulties in adolescents from Argentina.

ARTICLE HISTORY Received: 17 July 2023; Accepted: 29 September 2023

KEYWORDS inventory of interpersonal problems-32; psychometric properties; Argentina; adolescents

Adolescence has been identified as a particularly demanding period of life with a variety of life challenges (Sroufe & Rutter, 1984; Talebi Joybari, 2014). Alterations encompass a range of changes, spanning

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from physical transformations associated with puberty to psychosocial shifts that involve the redefinition of family roles and expectations (Lacunza & Contini, 2016). Due to increasing independence from adults, childhood attachment patterns are redefined and new ways of relating with others start winning importance (friends, love and sexual relationships) (DiRico et al., 2016; Inglés et al., 2005). As the network of relationships outside the family widens, adolescents are exposed to a wide range of new social situations (Inglés et al., 2005). It is during these interactions that peer relationships play a critical role in the development of social skills and personal feelings (Hansen et al., 1998). Changes in interpersonal relationships may bring difficulties that often increase anxiety and social fears in adolescents (Lacunza & Contini, 2016). This is where the study of interpersonal problems becomes important, as many presenting problems of people are interpersonal in nature (Horowitz, 1979).

Interpersonal problems have been associated with psychopathology such as major depression, anxiety, maladjusted personality (Girard et al., 2017; Grosse Holtforth et al., 2014; Locke et al., 2018) and higher levels of symptomatology (Luo et al., 2018). Specifically in adolescents, Miller et al. (2015) found that interpersonal difficulties predispose them to suicide-related behaviors. Similarly, Au et al. 2009 observed that high supportive peer relationships and family support weaken the relationship between suicidal ideation and depressive symptoms. For their part, Auerbach et al. (2014) observed that interpersonal factors such as social support deficits are associated with triggering stress and depression in youth. Furthermore, two recent reviews on mediators in psychotherapy treatments with adolescents showed that both family conflicts and relationship problems are significant interpersonal mediators in the cognitive treatment of depression in adolescents (Moreno-Peral et al., 2020). In their meta-analysis, Taubner et al. (2023) found 23 studies with relational mediators, and a total of 65% of these studies reported significant effects. Additionally, Ng et al. (2020) found potential mediators such as changes in negative cognition, social engagement, family functioning, etc., in their review on change mechanisms in the treatment of youth anxiety and depression. However, the evidence was far from conclusive. The authors also pointed out that CBT researchers favor cognitive mediators over other possible mediators. Furthermore, in a meta-analysis focusing on interpersonal problems as a predictor of outcome in psychotherapy for depressive and anxiety disorders, the authors found that in adult and adolescent therapy, interpersonal problems have been shown to predict therapy outcome (Gómez Penedo & Flückiger, 2023). Notwithstanding the relevance of such a topic, the lack of information on interpersonal factors in psychotherapy for adolescents is reiterated. This gap becomes understandable when we acknowledge the significance of elements such as parenting styles,

attachment, peer relationships, and other factors that must be taken into account when seeking to understand this developmental stage. This highlights the need to assess adolescents' interpersonal problems as an essential area of focus for mental health professionals.

While various tools are available to evaluate difficulties in relationships, the Inventory of Interpersonal Problems (IIP; Horowitz et al., 1988) stands out as the most extensively utilized instrument globally. Importantly, it is associated with the interpersonal circumplex theory of personality and pathology (Pincus, 2005; Wiggins, 1991), which links it to a host of empirical and theoretical propositions, including circular structure as depicted in Figure 1.

The first version of this instrument had 127 items (Horowitz et al., 1988). Later, Horowitz et al. (2000) published a revised version of the IIP, which included 64 items (IIP-64) divided equally onto eight subscales (see Figure 1). In this way, the eight typologies of interpersonal problems are distributed around the two basic interpersonal dimensions of agency and communion (see Figure 1). The communion dimension describes the extent to which a person needs to establish close relationships with others (spanning from coldness or indifference on the negative pole to excessive dependency on the positive pole). The agency dimension reflects the extent to which a person desires to influence or be influenced by others (encompassing

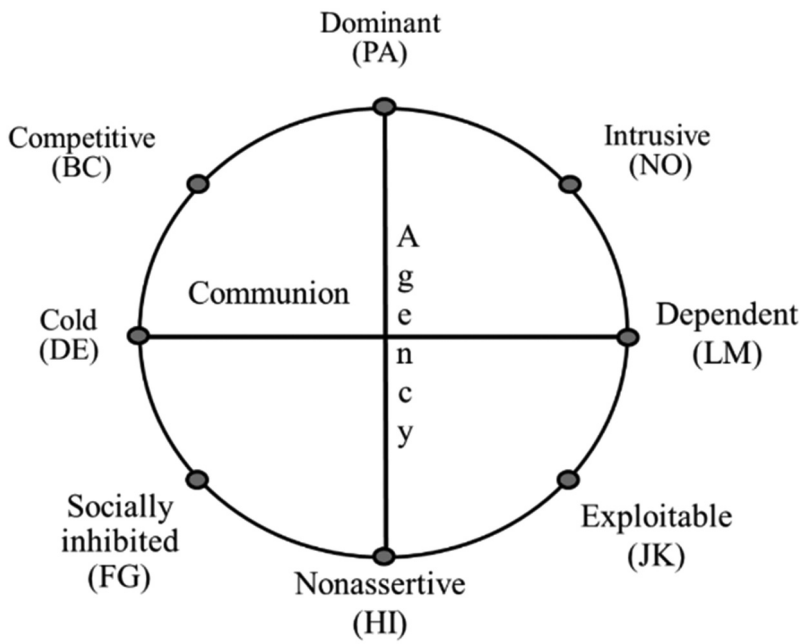

Figure 1. Subscales and dimensions of the circumplex model of the Inventory of interpersonal problems (Horowitz et al., 2000).

challenges of submission on the negative pole and challenges of excessive dominance on the positive pole). Over time, researchers have developed multiple versions of the IIP aiming to create a concise and practical measure suitable for clinical settings. One version is the IIP with 32 items (Barkham et al., 1996). The IIP-32 has grown globally and is available in various languages and countries (Faustino & Vasco, 2020; Lo Coco et al., 2018; Qi et al., 2018; Salazar et al., 2010; Thomas et al., 2011). Specifically in the Latin American context, it has been studied in a clinical adult sample in Argentina which showed the IIP-32 as a reliable (Cronbach's alpha .63–.87) and valid instrument (CFI indices of .93, TLI of .92 and RMSEA of .076) with important clinical implications to measure interpersonal difficulties (Gómez-Penedo et al., 2022).

Although most of the research with this instrument was carried out with adult population, it has been widely used with adolescents (Brown & Wright, 2003; Carbonell et al., 1998; Haggerty et al., 2013; Khan & Kausar, 2020, Lau et al., 2019; Ness et al., 2018; Talebi Joybari, 2014; Tschiesner et al., 2014; Ulberg et al., 2012; Wright et al., 2005). However, all these studies were based on different versions of the instrument, where reliability was analyzed in adults only. Many previous studies suggest good reliability when administering the IIP to adolescents, but these studies did not examine the psychometric properties of the instrument itself (Fichman et al., 1994; Hansen & Lambert, 1996; Sheffield et al., 1995). We found only one study (Israel & Langeveld, 2021) which actually looked at the reliability and validity of the IIP in adolescents. This is a considerable limitation to previous research on interpersonal problems in adolescents, as the instrument may measure differently in adults and adolescents.

Based on the lack of studies that analyzed the use of IIP in adolescents, the aim of this study is to examine the psychometric characteristics of the IIP-32 in adolescents from Argentina. Specifically, focusing on assessing the inventory's reliability (internal consistency and item homogeneity) and validity (analysis of internal structure, concurrent validity and criterion validity). Having an instrument with reliable and valid measurements would greatly benefit both research and clinical practice in the field of mental health with adolescents, considering also that there are no instruments focused on the circumplex model of interpersonal behaviour validated in adolescents in the region.

Methods

Participants

The sample consisted of 557 adolescents across Argentina. The mean age of the participants was 16.8 years (SD = 2.02). Inclusion criteria were being: 1) between 12 and 19 years old and 2) capable of understanding the written

statements. Two-thirds (66.9%) of the participants identified as female, 31.7% as male, and 1.4% chose the "other" option. Considering the adolescence stages, the shares of participants' age were: 14.7% were early adolescents (12 and 14 years old); 37.1% were middle adolescents (15–17 years old) and 48.2% were late adolescents (18 and 19 years old). All participants were students. Diagnostic data did not exist for participants. 27.4% of the participants received psychotherapy when completing the instruments, 28.6% had received psychotherapy before, and 43.5% had never received psychotherapy.

Instruments

Inventory of interpersonal problems (IIP-32; Horowitz, 2000)

The 32-item version of the IIP (Horowitz et al., 1988) presents 32 problem statements people may experience when interacting with others. The first 20 items begin with "It is hard for me to" (for example) *say no to other people*. The second 12 items start with "things I do too much" (for example) *I fight with other people too much*. Subjects indicate on a Likert scale based on agreement from 0 (Not at all) to 4 (Very much). The 32 items constitute eight subscales of interpersonal problems that are projected onto the interpersonal circumplex: domineering (PA), intrusive (NO), overly nurturing (LM), exploitable (JK), non-assertive (HI), socially inhibited (FG), cold (DE) and vindictive (BC). Additionally, the two interpersonal dimensions of agency and communion can be calculated, based on weighted combinations of the eight subscales. The IIP-64 has a Spanish adaptation in Argentina (Maristany, 2005) which has been adapted to the 32-item version (Gómez-Penedo et al., 2022). This version has reported good reliability with alpha coefficients in the range of .67–.87 and is the one used in the current study (Gómez-Penedo et al., 2022).

The child and adolescent interpersonal survey (CAIS; Sodano & Terence, 2006)

The CAIS is a survey of interpersonal dispositions in children and adolescents based on the Interpersonal Circumplex Model. The instrument focuses on understanding childrens' and adolescents' style of interacting with other people. Participants indicate how often each statement applies to them using a Likert-type response format ranging from (1) never to (5) always. Scores are calculated for each octant scale based on the eight interpersonal dispositions already presented in the IIP-32 measurement. CAIS items are as follows: "I am tough" (PA), I call people names (BC), I hurt people (DE), I am by myself a lot (FG), I am shy (HI), I am calm (JK), I am kind to others (LM), and I am fun to be around (NO). The median α across the octant scales was .70 using combined samples (Sodano, 2011; Sodano & Tracey, 2006). For this study, we used the Spanish-translated version from Areas et al. (Manuscript in

preparation) which has recently been validated and reported good reliability and construct validity.

Ad hoc sociodemographic questionnaire

An ad hoc questionnaire was included to measure socio-demographic variables for the study. This included: the age of participants, gender, province of residence, and a question asking if they were undergoing psychotherapy, if they had received psychotherapy in the past year, and if they had ever received psychotherapy.

Procedures

A snowball design was used to recruit participants. As a first step, psychotherapy centres, school teachers and known individuals across the country were approached and invited to participate. If these persons were interested in collaborating in the study, they were sent an online link via *the SurveyMonkey®* platform to invite adolescents to participate. Adolescents accessed the link, where they first found a consent form to sign, the youngest participants (under 18 years old) needed prior parental consent. This consent was requested by the professionals involved in the research, previously to sharing the link. The consent also made clear that participation was voluntary and anonymous, and that data could be withdrawn if desired. Once accepted to participate, the adolescent completed the IIP-32, the CAIS and sociodemographic information. Participants could change their answers and go back if necessary until they pressed the end button. Moreover, it should be noted that none of the data obtained could identify the patient and that the platform complies with international security standards for the care of the data and the anonymity of the participant. This study is part of a larger study focused on interpersonal characteristics in adolescents, which received ethical approval from the Committee for Responsible Conduct in Research from the University of Buenos Aires.

Data analysis

For data analyses, the open-source software R (RStudio Team, 2020) and LISREL 8.8 (Jöreskog & Sörbom, 1993) were used. Mean item scores were used to calculate total and subscale scores. Internal consistency and item homogeneity were analyzed as reliability measures of the IIP-32. Cronbach's alpha and McDonald's Omega statistics were calculated for the overall scale and the eight subscales in terms of internal consistency. As several studies highlight the importance of ordinal alpha in the study of ordinal scales, it was also included (Freiberg-Hoffmann et al., 2013). Previous research suggests that an acceptable value of alpha ranges between .70 and .90 (Tavakol &

Dennick, 2011). In order to analyze item homogeneity, we calculated corrected item-scale correlations. Correlations between the range of .30 to .80 are considered adequate levels of item homogeneity (Rattray & Jones, 2007).

For the study of the validity of the instrument, analysis of internal structure and concurrent validity were evaluated. For the analysis of internal structure, a confirmatory factor analysis was performed employing the *Maximum Likelihood Robust* (MLR) estimator. This method has shown superiority when studying items with an ordinal level of measurement (Li, 2016; Mindrila, 2010).To interpret the model fit, comparative fit index (CFI), Tucker-Lewis index (TLI) and root mean square error of approximation (RMSEA) were used. Values above .90 in CFI and TLI and below .08 in RMSEA were indicators of an adequate fit of the model (Schumacker & Lomax, 2016). Due to the nature of the instrument, a bifactor model was adjusted (Reise, 2012). Analyses were carried out on the totality of cases, as there was no missing data and no data imputation methods had to be applied.

For the concurrent validity study, Pearson product-moment correlations were calculated between the IIP-32 total score and the CAIS. For evidence of adequate concurrent validity, correlation values with a range of .50 to .85 are expected (Rial-Boubeta et al., 2006).

Evidence of criterion validity was assessed by comparing IIP-32 scores between participants undergoing psychotherapy, those who received treatment in the last year and those who never received treatment before (ANOVA). It was hypothesized that participants who were undergoing psychotherapy would present higher IIP-32 scores than those who underwent psychotherapy in the last year or who never underwent psychotherapy before (Jacobson & Truax, 1991).

Finally, to determine the minimum sample size needed to carry out the research, we used the number of parameters to be estimated in the instrument's CFA. Given that the IIP-32 consists of 32 items, the number of parameters to be estimated would be 64 (32 factor loadings and 32 error terms), determining a criterion of 5 subjects per parameter, as recommended in classical studies, resulting in 320 participants (Gorsuch, 1983).

The pre-registration of the analysis plan was uploaded on the osf.io platform and can be accessed through the following identifier: DOI 10.17605/OSF.IO/Z6T4Q (https://osf.io/z6t4q).

Results

Descriptive analysis

Table 1 presents the descriptive analyses of all the items of the IIP-32. Table 2 reports the descriptive analyses of the scales and the total score of the IIP-32. Moreover, the frequencies of the benchmarks were 1.38 for the median, 1.03

Table 1. Descriptive analyses and corrected item-scale correlations of the IIP-32 items

Item	Mean	SD	Scale	*r*
Item 1	1.95	1.26	JK	.49
Item 2	1.96	1.27	FG	.62
Item 3	1.14	1.14	NO	.24
Item 4	1.37	1.31	HI	.46
Item 5	1.85	1.31	FG	.66
Item 6	1.76	1.33	HI	.34
Item 7	1.70	1.20	HI	.64
Item 8	1.48	1.29	JK	.32
Item 9	1.68	1.37	FG	.58
Item 10	1.62	1.29	DE	.48
Item 11	1.17	1.19	DE	.52
Item 12	1.52	1.24	HI	.56
Item 13	1.53	1.37	DE	.51
Item 14	0.81	1.30	BC	.76
Item 15	1.52	1.23	DE	.54
Item 16	0.96	1.23	BC	.74
Item 17	1.37	1.21	BC	.50
Item 18	0.89	1.32	BC	.76
Item 19	1.53	1.25	FG	.43
Item 20	1.90	1.32	JK	.31
Item 21	1.53	1.16	NO	.40
Item 22	0.75	0.91	PA	.48
Item 23	1.88	1.32	LM	.59
Item 24	0.87	0.99	NO	.31
Item 25	0.82	1.01	PA	.50
Item 26	1.64	1.28	LM	.67
Item 27	1.59	1.18	LM	.54
Item 28	0.69	0.93	PA	.52
Item 29	1.01	1.13	NO	.52
Item 30	1.07	1.06	PA	.43
Item 31	0.97	1.09	JK	.46
Item 32	1.78	1.19	LM	.36

Notes. SD = Standard deviation. For scale references see Figure 1.

Table 2. Descriptive analyses of the IIP-32 total score and scales

Scales	Mean	SD	Range
PA	0.83	0.71	[0; 3.5]
BC	1.01	1.04	[0; 4]
DE	1.46	0.95	[0; 4]
FG	1.75	1.00	[0; 4]
HI	1.59	0.93	[0; 4]
JK	1.58	0.85	[0; 4]
LM	1.72	0.94	[0; 4]
NO	1.14	0.74	[0; 3.5]
Total	1.39	0.50	[0.22; 2.91]

Note: Mean item scores were used to calculate total and subscale scores.

for the 25th percentile, 1.38 for the 50th percentile and 1.72 for the 75% percentile.

Reliability

Internal consistency

The items of the IIP-32 presented a Cronbach's alpha of .84. Due to the ordinal level of measurement of the items, the ordinal alpha of the IIP-32 items was computed with a value of .86. Moreover McDonald's Omega Coefficient (McDonald, 1999) obtained a value of .76. Table 3 presents the Cronbach's alphas, ordinal alphas and McDonald's Omegas at the level of the eight subscales of the IIP-32.

Item homogeneity

Table 1 shows the item-scale correlations. None of the items of the IIP-32 presented correlations lower than .30 or higher than .80 with the items of its scale. The item with the lowest item-total adjusted correlation was item 3 of NO subscale.

Validity

Analysis of internal structure

A bifactor model was tested, considering its psychometric evidence in the local context. The model verified an adequate fit to the empirical data with CFI indices of .93, TLI of .91 and RMSEA [CI90%] of .068 [.064, .071]. Table 4 shows the parameters of the confirmatory factor model and the coefficient of determination for each item. Then, the robustness of the model was tested by comparing it to two alternative models, unidimensional and second-order. Table 5 shows that the bifactor model obtained better fit indices than alternative models. Besides,

Table 3. Cronbach's alpha, ordinal alpha and McDonald's Omega for IIP-32 scales

Scales	Cronbach's alpha	Ordinal alpha	McDonald's Omega
PA	.70	.76	.76
BC	.85	.88	.90
DE	.73	.77	.81
FG	.77	.80	.83
HI	.71	.75	.79
JK	.61	.66	.69
LM	.74	.77	.79
NO	.58	.63	.67
TOTAL	.84	.86	.90

Table 4. Parameters and coefficients of determination of the confirmatory factor model

Item	λ (Subscale)	λ Global IIP	θδ
Item 22	.58 (PA)	.18	.64
Item 25	.74 (PA)	.11	.45
Item 28	.78 (PA)	.05	.39
Item 30	.49 (PA)	.20	.72
Item 14	.60 (BC)	.70	.15
Item 16	.56 (BC)	.63	.29
Item 17	.58 (BC)	.24	.60
Item 18	.63 (BC)	.66	.18
Item 10	.48 (DE)	.45	.56
Item 11	−.02 (DE)	.87	.25
Item 13	.54 (DE)	.49	.47
Item 15	.20 (DE)	.68	.50
Item 2	.73 (FG)	.31	.37
Item 5	.76 (FG)	.38	.28
Item 9	.49 (FG)	.60	.40
Item 19	.28 (FG)	.50	.67
Item 4	.46 (HI)	.36	.66
Item 6	.28 (HI)	.41	.75
Item 7	.83 (HI)	.40	.15
Item 12	.54 (HI)	.54	.42
Item 1	.75 (JK)	.17	.41
Item 8	.38 (JK)	.33	.74
Item 20	.39 (JK)	.01	.85
Item 31	.72 (JK)	.12	.47
Item 23	.73 (LM)	.17	.44
Item 26	.90 (LM)	.08	.18
Item 27	.66 (LM)	.11	.55
Item 32	.42 (LM)	.08	.82
Item 3	.39 (NO)	.30	.76
Item 21	.63 (NO)	−.15	.57
Item 24	.42 (NO)	.05	.82
Item 29	.81 (NO)	−.32	.34

Note. SD = Standard deviation. For scale references see Figure 1.

Table 5. Comparison of the CFA model indices

	CFI	TLI	RMSEA [CI90%]	Independence CAIC	Model CAIC
Bifactor	.93	.91	.068 [.064–.071]	17.021.225	2.276.148
Unidimensional	.57	.54	.162 [.159–.165]	17.021.225	7.936.490
Second-order	.91	.90	.073 [.069–.076]	17.021.225	2.393.483

differences between Independence CAIC and Model CAIC indices were higher in the bifactor model which explains their better parsimony.

Concurrent validity

Pearson correlations showed significant direct associations of the IIP-32 with the CAIS. In almost all the cases correlations demonstrated a small effect size in the associations [(r =.13–.41), $p < .001$]. Table 6 presents the details of these correlations.

Table 6. Correlations of IIP-32 subscales and CAIS subscales

	IIP_PA	IIP_BC	IIP_DE	IIP_FG	IIP_HI	IIP_JK	IIP_LM	IIP_NO
CAIS_PA	.23*							
CAIS_BC		.13*						
CAIS_DE			.13*					
CAIS_FG				.40*				
CAIS_HI					.33*			
CAIS_JK						.16*		
CAIS_LM							.41*	
CAIS_NO								.16*

Note. Correlations * = $p < .001$.

Criterion validity

ANOVA for comparison of independent samples showed statistically significant differences in IIP-32 scores ($F(2, 107) = 6.54$, $p < .01$, $\eta^2 = .02$). Patients who were undergoing psychotherapy at the time of collection had higher scores on the IIP-32 (Mean [M] = 1.50, Standard Deviation [SD] = 0.48) than participants who never underwent therapy ($M = 1.34$, SD = 0.49) and those who had undergone psychotherapy in the last year ($M = 1.37$, SD = 0.59). When Tukey's post hoc analysis was performed, the mean differences between the group receiving psychotherapy and those who had never received psychotherapy were significant (Mean Difference [MD]= .16, $p < .01$); differences between the groups receiving psychotherapy and those who had undergone psychotherapy in the last year were not significant (MD = .14, $p = .23$); and differences between the group who had undergone psychotherapy in the last year and those who had never received psychotherapy were not significant (MD = .03, $p = .94$).

Discussion

The current study aimed to examine the psychometric properties of the IIP-32 in a sample of Argentinean adolescents. Analyses included examining the model fit, reliability of the scales, the factor structure and validity. The findings of this study demonstrated satisfactory levels of instrument reliability and validity among adolescents.

The instrument showed an excellent level of internal consistency in its total score. Results showed adequate levels of internal consistency in six of the eight dimensions (Tavakol & Dennick, 2011). The intrusive (NO) and exploitable (JK) scales presented alphas below the expected range. However, the McDonald's Omega coefficient for these scales showed better adjustment. This is also noticed in other studies of the IIP (Alden et al., 1990; Bailey et al., 2018; Gómez-Penedo et al., 2022). These findings show that our study is also susceptible to the same pattern of scale reliability as previous studies, and therefore not unusual. In addition, adequate levels of item

homogeneity were observed in the instrument. This implies that there was an association between items and that items were not redundant (Rattray & Jones, 2007).

The confirmatory factor analysis demonstrated adequate analysis of internal structure, with all goodness-of-fit measures within the parameters suggested in the literature. We observed the presence of Heywood cases, which are characterized by negative estimated variances. These cases were not subjected to any specific statistical treatment, as their occurrence is a common outcome when dealing with tetrachoric correlations (Yuan et al., 2011). Additionally, previous research has demonstrated that statistical measures like the chi-square are not significantly affected by the presence of these improper solutions (Chen et al., 2001).

Pearson's correlations between the IIP-32 total score and the subscales of the CAIS (Sodano & Tracey, 2006) showed low but significant positive correlations, which means that there is a low association between the analysis of internal structure. Such variations are common in social science research since variables are often operationalized differently. Although both instruments are based on the interpersonal circumplex model, the IIP measures interpersonal problems, while the CAIS focuses on interpersonal traits from a non-conflict perspective. Therefore, the contrasting nature of these conceptualizations contributes to the expected differences in results. This is also interesting considering the fact that we have two instruments that are related, but are measuring different things. Moreover, in a study conducted by Sodano and Tracey (2006), the authors also found a weak correlation between the CAIS and other instruments (Interpersonal Adjective Sale (Wiggins, 1995); Big Five Questionnaire—Children (Barbaranelli et al., 2003)). These findings are in line with the literature and are evidence of different ways of studying interpersonal functioning. Additionally, there may be other variables such as data variability, lack of linearity, and sample characteristics that can affect the size of a Pearson correlation (Goodwin & Leech, 2006).

In relation to criterion validity, findings show that participants undergoing treatment had higher levels of interpersonal distress when comparing mean differences of the total IIP-32 scores. This is in line with research conducted in adults where interpersonal problems had been related to the symptomatology of different diagnoses (Girard et al., 2017; Grosse Holtforth et al., 2014; Locke et al., 2018).

This study focused on using the IIP-32 in adolescents. The IIP-32 facilitates a comprehensive assessment of the difficulties that people face in their interpersonal relationships. Understanding and describing these difficulties has great clinical relevance in patient evaluation, treatment design, and

outcome analysis. This can be particularly useful if we consider the critical role of social skills in adolescents.

It is important to acknowledge a number of limitations of our study that will need to be addressed in future research. First, we only evaluated concurrent validity through another interpersonal instrument which showed low correlations. It would be valuable to incorporate measures completed by external sources (observers, therapists, etc.) and also choose new instruments for this type of analysis. This inclusion would allow for an examination of the concurrent validity of the IIP-32. The present study did not perform discriminant (divergent) and predictive validity analyses, which would provide more information about the IIP-32 use in adolescents. Additionally, it would be interesting to compare the IIP-32 with relevant variables such as the presence of psychopathology, socio-demographic characteristics, etc. Such comparisons would provide additional insights into the interpersonal problems experienced by adolescents. One of the big challenges when deciding on methodological design in the Latin American region is the lack of instruments available for these analyses. Second, the sample was nonprobabilistic and there was no information on the diagnoses of the participants which affects the generalization of the results. Therefore, future research should consider employing alternative methods of data collection to enhance the robustness and generalizability of findings. Also, most of the sample identified as female which also affects generalizability. Moreover, we neither have information about socio-demographic data such as socio-economic status, whether participants live in a rural or urban area, among others, nor do we know whether interpersonal problems vary at different stages of adolescence. Furthermore, the absence of prior studies on the topic poses a challenge as it hinders the ability to compare and contextualize the results with existing information. Finally, no repeated measures of the instrument were applied, which could help with the study of the instrument's sensitivity to change as well as detect and create criteria for clinically significant change.

To conclude, the outcomes of this study establish the IIP-32 as a reliable and valid tool for its implementation with adolescents. Consequently, it is a significant resource for clinical studies and research in psychotherapy. Further research on this topic in adolescents is needed.

Acknowledgments

We would like to thank the adolescents who participated in this study.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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